

Work Order ID 113229

February-13-14 3:14:48 PM

\*113229\*

Page 1

Item ID: D3537-1

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Wearpad

Stop

\*NS2\*

Start Date: 17/02/2014 Start Qty: 40.00

\*40\*

Cust Item ID:

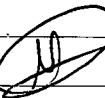
Required Date: 17/02/2014 Req'd Qty: 40.00

\*40\*

Customer:

Reference:

Approvals:

Process Plan: 

Date: 14-02-13

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr	Memo	0.00	cm/g 2/18/14
D3537	Rev C	1-Cut as per Dwg D3537Dwg Rev:	Prog Rev:	
100			0.00	
*100*	FLOW WATER JET			

Waterjet

FLOW CNC Waterjet

ISSUE PO Po 23011  
POSSIBLE SUPPLIER: LOEBSACK WATERJET

105

\*105\*

Small Fab

Small Fab

Memo  
DEBURR A/R

0.00

DAS  
21  
9-19

14/11/17

45

N  
A

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: Date: \_\_\_\_\_

Work Order update only 

Work Order: _____	<b>DISPOSITION</b>	<b>AGAINST DEPARTMENT/PROCESS</b>					
Part No. _____	Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>		
NCR No. _____							

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

**FAULT CATEGORY**

Landing Gear	General				
Bending	Bend			Outside Dimensions	Pressure/Forced
Centre Not Concentric	BOM/Route			Over/Under tolerance	Set-up
Cracks	Broken/Damage/Defect			Part Incorrect	Temperature/Cure
Crimp/Kink/Ripple/Wave	Burrs			Part Lost/Missing	Weld
Cuffs	Contamination			Part Moved	Wrong Stock Pulled
Crushing	Countersink			Positioned Wrong	
Heat Treat	Cut Too Short			Power Loss/Surge	Other
Inspection Strip in Tube	Drawing				
Marks/Chatter	Drill Holes				
Turning Sequence	Finish				
Wave/Twist in Tube	Fit/Function				

**Work Order ID 113229**

February-13-14 3:14:48 PM

**\*113229\***

Page 2

Item ID: D3537-1

Revision ID:

Item Name: Wearpad

Start Date: 17/02/2014 Start Qty: 40.00

Accept

**\*N900040100\***

Setup

Start

**\*NS1\***

Required Date: 17/02/2014 Req'd Qty: 40.00

**\*40\***

Cust Item ID:

Stop

**\*NS2\***

Reference:

Approvals: Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run

Start

**\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

**\*NR2\***Sequence ID/  
Work Center ID  
107Operation  
Description  
Form as per dwgSet Up/  
Run Hours  
0.00

Tool ID

Tool #

Plan  
Code  
**DAS  
30  
9-89**Accept  
Qty  
**40**Reject  
QtyReject  
NumberInsp.  
Stamp  
*14/04/22***\*107\***

Brake NC

Brake NC

Memo

1- Form as per Dwg D3537 on CNC brake using Jigs DT 8261 and 8326.2-  
Identify as D3537-1

110

**\*110\***

Large Fab

Large Fab

Memo

Qty Description Batch A/R  
2059B hardcoat \_\_\_\_\_ 1- Weld *M127737, M113985*  
as per dwg D3537 using Jig DT82102- Remove weld that penetrated through  
Wearpad if necessary.

0.00

**40***14-04-20**B3L*

112

**\*112\***

QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

**(40)***14.04.29***DAS  
9  
9-89**

DQA:

Date:



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only 

<p>Work Order: _____</p> <p>Part No. _____</p> <p>NCR No. _____</p>	<b>DISPOSITION</b> <input type="checkbox"/> Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved	<b>AGAINST DEPARTMENT/PROCESS</b> <input type="checkbox"/> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab	<input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite	<input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier	<input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other
---	--	---	--	--	--

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

Landing Gear	General							
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions		<input type="checkbox"/> Pressure/Forced			
<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input type="checkbox"/> Over/Under tolerance		<input type="checkbox"/> Set-up			
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Part Incorrect		<input type="checkbox"/> Temperature/Cure			
<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Part Lost/Missing		<input type="checkbox"/> Weld			
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Moved		<input type="checkbox"/> Wrong Stock Pulled			
<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Positioned Wrong		<input type="checkbox"/> Other			
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Power Loss/Surge					
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread						
<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set						
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration						
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence						

**Work Order ID 113229**

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**\*113229\***

Page 3

Item ID: D3537-1

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Item Name: Wearpad

Stop

**\*NS2\***

Start Date: 17/02/2014 Start Qty: 40.00

**\*40\***

Cust Item ID:

Required Date: 17/02/2014 Req'd Qty: 40.00

**\*40\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start

**\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

**\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

114

QC5- Inspect part completeness to step on W/O

0.00

866

**\*114\***

QC

Quality Control

(40) 11-04-29

6

SWU

116

Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3

0.00

40 φ 41-56 . DAS 34 989

**\*116\***

Powdercoat

Powder Coating

Memo

8:20

0.00

START TIME: 8:20

Oven Temperature: 320°

Finish time: 8:30

118

QC3- Inspect Part Finish

0.00

40 ✕ ④ 14/05/06

**\*118\***

QC

Quality Control

Memo

0.00

DQA:

Date:



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only 

<p>Work Order: _____</p> <p>Part No. _____</p> <p>NCR No. _____</p>	<b>DISPOSITION</b> Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

Landing Gear	General		
Bending	Bend		Outside Dimensions
Centre Not Concentric	BOM/Route		Over/Under tolerance
Cracks	Broken/Damage/Defect		Part Incorrect
Crimp/Kink/Ripple/Wave	Burrs		Part Lost/Missing
Cuffs	Contamination		Part Moved
Crushing	Countersink		Positioned Wrong
Heat Treat	Cut Too Short		Power Loss/Surge
Inspection Strip in Tube	Drawing		Pressure/Forced
Marks/Chatter	Drill Holes		Set-up
Turning Sequence	Finish		Temperature/Cure
Wave/Twist in Tube	Fit/Function		Weld
			Wrong Stock Pulled
			Other



DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only 

Work Order: _____	<b>DISPOSITION</b>	<b>AGAINST DEPARTMENT/PROCESS</b>					
Part No. _____	Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>		
NCR No. _____	Suspected Unapproved <input type="checkbox"/>						

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

**FAULT CATEGORY**

<b>Landing Gear</b>		<b>General</b>					
Bending	<input type="checkbox"/>	Bend	<input type="checkbox"/>	Folio/Program	<input type="checkbox"/>	Outside Dimensions	<input type="checkbox"/>
Centre Not Concentric	<input type="checkbox"/>	BOM/Route	<input type="checkbox"/>	Grain	<input type="checkbox"/>	Over/Under tolerance	<input type="checkbox"/>
Cracks	<input type="checkbox"/>	Broken/Damage/Defect	<input type="checkbox"/>	Hardware	<input type="checkbox"/>	Part Incorrect	<input type="checkbox"/>
Crimp/Kink/Ripple/Wave	<input type="checkbox"/>	Burrs	<input type="checkbox"/>	Inspection Incomplete/Unqualified	<input type="checkbox"/>	Part Lost/Missing	<input type="checkbox"/>
Cuffs	<input type="checkbox"/>	Contamination	<input type="checkbox"/>	Instructions Incomplete/Unclear	<input type="checkbox"/>	Part Moved	<input type="checkbox"/>
Crushing	<input type="checkbox"/>	Countersink	<input type="checkbox"/>	Misaligned/off center	<input type="checkbox"/>	Positioned Wrong	<input type="checkbox"/>
Heat Treat	<input type="checkbox"/>	Cut Too Short	<input type="checkbox"/>	Mislabeled	<input type="checkbox"/>	Power Loss/Surge	<input type="checkbox"/>
Inspection Strip in Tube	<input type="checkbox"/>	Drawing	<input type="checkbox"/>	Misread		Other	
Marks/Chatter	<input type="checkbox"/>	Drill Holes	<input type="checkbox"/>	Off-set			
Turning Sequence	<input type="checkbox"/>	Finish	<input type="checkbox"/>	Out of Calibration			
Wave/Twist in Tube	<input type="checkbox"/>	Fit/Function	<input type="checkbox"/>	Out of Sequence			

**Work Order ID 113229**

February-13-14 3:14:48 PM

**\*113229\***

Page 5

**Item ID:** D3537-1

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

**Revision ID:**

**Item Name:** Wearpad

Stop

**\*NS2\***

**Start Date:** 17/02/2014 **Start Qty:** 40.00

**\*40\***

**Cust Item ID:**

**Required Date:** 17/02/2014 **Req'd Qty:** 40.00

**\*40\***

**Customer:**

**Reference:**

**Approvals:** **Process Plan:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Tooling:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Run Start

**\*NR1\***

**QC:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**SPC (Y/N):** \_\_\_\_\_

**Date:** \_\_\_\_\_

Stop

**\*NR2\***

**Sequence ID/  
Work Center ID**

**Operation  
Description**

**Set Up/  
Run Hours**

**Tool ID**

**Tool #**

**Plan  
Code**

**Accept  
Qty**

**Reject  
Qty**

**Reject  
Number**

**Insp.  
Stamp**

200

QC21- Final Inspection - Work Order Release

0.00

14/5/14 

**\*200\***

QC

Quality Control

**Memo**

0.00

 14-5-06

DQA:

Date:



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only 

Work Order: _____			<b>DISPOSITION</b>		<b>AGAINST DEPARTMENT/PROCESS</b>																
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>		Engineering <input type="checkbox"/>													
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>		Quality <input type="checkbox"/>													
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>		Other <input type="checkbox"/>													
			Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>															
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector												
Design																					
Doc/Data																					
Equip/Tooling																					
Handling/Pre																					
Material																					
Operator																					
Offset/Setup																					
Process																					
Supplier																					
Training																					
Transport																					
Unapproved																					
<b>FAULT CATEGORY</b>																					
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function						<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence				<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled			

**Picklist Print**

February-13-14 3:14:52 PM

Page 1

Work Order ID: 113229

**\*113229\***

Parent Item: D3537-1

**\*D3537-1\***

Parent Item Name: Wearpad

Start Date: 17/02/2014

Required Date: 17/02/2014

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP Rev:A New Issue 07-02-14 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3537-1P <b>*D3537-1P*</b> Wearpad		Purchased		No			Each	0.0000	**	40		17/02/14	(40)

DQA:

Date:



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only 

Work Order: \_\_\_\_\_  
 Part No. \_\_\_\_\_  
 NCR No. \_\_\_\_\_

**DISPOSITION**

Rework   
 Scrap   
 Use-as-is   
 Suspected Unapproved

**AGAINST DEPARTMENT/PROCESS**

Skid-tube   
 Machining   
 Thermoforming   
 Large Fab

Crosstube   
 Small Fab   
 Finishing   
 Composite

Water Jet   
 Prod. Eng. Coor.   
 Rec/Store/Packaging   
 Supplier

Engineering   
 Quality   
 Other

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

**FAULT CATEGORY**

<b>Landing Gear</b>		<b>General</b>									
<input type="checkbox"/>	Bending	<input type="checkbox"/>	Bend	<input type="checkbox"/>	Folio/Program	<input type="checkbox"/>	Outside Dimensions	<input type="checkbox"/>	Pressure/Forced		
<input type="checkbox"/>	Centre Not Concentric	<input type="checkbox"/>	BOM/Route	<input type="checkbox"/>	Grain	<input type="checkbox"/>	Over/Under tolerance	<input type="checkbox"/>	Set-up		
<input type="checkbox"/>	Cracks	<input type="checkbox"/>	Broken/Damage/Defect	<input type="checkbox"/>	Hardware	<input type="checkbox"/>	Part Incorrect	<input type="checkbox"/>	Temperature/Cure		
<input type="checkbox"/>	Crimp/Kink/Ripple/Wave	<input type="checkbox"/>	Burrs	<input type="checkbox"/>	Inspection Incomplete/Unqualified	<input type="checkbox"/>	Part Lost/Missing	<input type="checkbox"/>	Weld		
<input type="checkbox"/>	Cuffs	<input type="checkbox"/>	Contamination	<input type="checkbox"/>	Instructions Incomplete/Unclear	<input type="checkbox"/>	Part Moved	<input type="checkbox"/>	Wrong Stock Pulled		
<input type="checkbox"/>	Crushing	<input type="checkbox"/>	Countersink	<input type="checkbox"/>	Misaligned/off center	<input type="checkbox"/>	Positioned Wrong	<input type="checkbox"/>	Other		
<input type="checkbox"/>	Heat Treat	<input type="checkbox"/>	Cut Too Short	<input type="checkbox"/>	Mislabeled	<input type="checkbox"/>	Power Loss/Surge	<input type="checkbox"/>			
<input type="checkbox"/>	Inspection Strip in Tube	<input type="checkbox"/>	Drawing	<input type="checkbox"/>	Misread	<input type="checkbox"/>		<input type="checkbox"/>			
<input type="checkbox"/>	Marks/Chatter	<input type="checkbox"/>	Drill Holes	<input type="checkbox"/>	Off-set	<input type="checkbox"/>		<input type="checkbox"/>			
<input type="checkbox"/>	Turning Sequence	<input type="checkbox"/>	Finish	<input type="checkbox"/>	Out of Calibration	<input type="checkbox"/>		<input type="checkbox"/>			
<input type="checkbox"/>	Wave/Twist in Tube	<input type="checkbox"/>	Fit/Function	<input type="checkbox"/>	Out of Sequence	<input type="checkbox"/>		<input type="checkbox"/>			

DART AEROSPACE LTD	Work Order:	113229
Description: Wearpad	Part Number:	D3537-1
Inspection Dwg: D3537	Rev: C	Page 1 of 1

# FIRST ARTICLE INSPECTION CHECKLIST

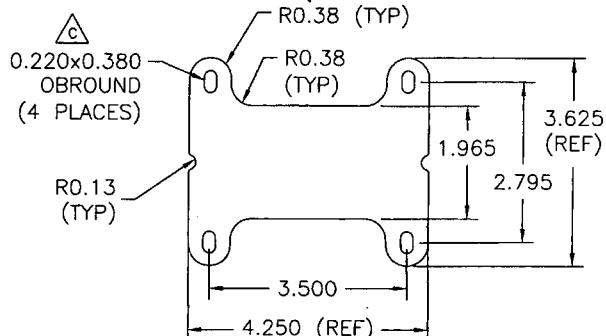
## X First Article      Prototype

DAS

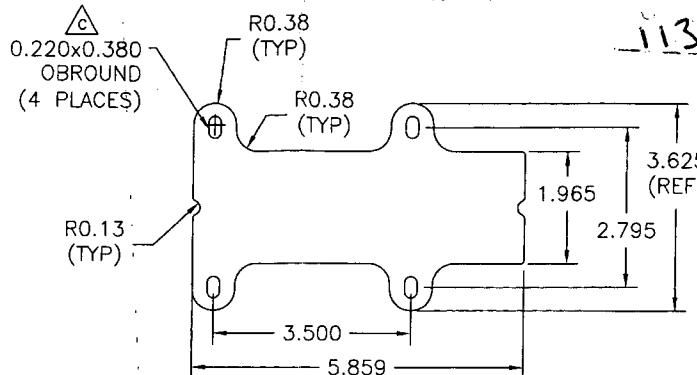
Measured by:	<i>Mm</i>	Audited by:	<i>27/10/16</i>	Prototype Approval:	N/A
Date:	<i>14/04/16</i>	Date:	<i>14/04/17</i>	Date:	N/A

<b>Rev</b>	<b>Date</b>	<b>Change</b>	<b>Revised by</b>	<b>Approved</b>
A	07.03.21	New Issue	KJ/JLM	
B	07.04.27	Dimensions revised per Dwg Rev. B	KJ/JLM	
C	07.05.28	Dimensions revised per Dwg Rev. C	KJ/JLM	<i>[Signature]</i>

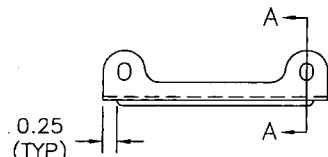
D3537-1F FLAT PATTERN



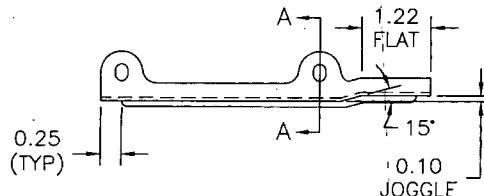
D3537-3F FLAT PATTERN



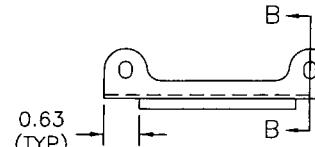
**D3537-1 LONGITUDINAL BEND**  
(MADE FROM D3537-1F)



D3537-3 LONGITUDINAL BEND  
(MADE FROM D3537-3F)



D3537-5 LONGITUDINAL BEND  
(MADE FROM D3537-1F)



D3537-1/-3/-5/-7 WEARPAD NOTES

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 16 GAUGE (0.063 THICK)  
(REF DART SPEC. M304S16GA)
  - 2) BREAK ALL SHARP CORNERS 0.063 MAX
  - 3) WELD PER QSI 004
  - 4) FINISH: POWDER COAT GREY SANTEX (4.3.5.6) PER QSI 005 4<sup>1</sup>3
  - 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED<sup>1</sup>
  - 6) ALL DIMENSIONS ARE IN INCHES

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PERSON WITHOUT WRITTEN PERMISSION FROM  
CARTER GROUP INC., WILMINGTON, DE

C	07.04.13	WIDEN TAB TO 0.380, WELD PATTERN		
B	07.03.20	ADD AMS 5513 AND AMS 5524		
A	06.11.06	NEW ISSUE		
DESIGN INC.	DRAWN BY <b>CB</b>	APPROVED <b>PH</b>	DART	DART AEROSPACE USA, INC. PORT HADLOCK, WA
CHECKED <b>#</b>	REV.	DRAWING NO. D3537	SHEET 1 OF	
DATE 07.04.13	TITLE WEARPAD	SCALE 1:		



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO23011**

Purchase Order Date 2/14/2014  
PO Print Date 2/14/2014

Page Number 8 of 9

Order From : VC-LWC001

LOEBSACK WATERJET CANADA LTD.  
55 NORTHFIELD DR. E.  
P.O.BOX 339

Ship To : DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

WATERLOO, ONTARIO N2K 3T6

Contact Name	Buyer	Michael Gregoire
Vendor Phone	Customer POID	
Ship To Contact	Customer Tax #	10127-2607
Ship To Phone	Terms	Net 30
Ship Via:	Currency	CAD
Ship Acct:	FOB	FCA - (Free Carrier)

21	D3065-7P	Step Spacer	3/28/2014	20.00	\$7.00	\$140.00
			Yes	Each		
			3/28/2014			

Manufacture as per drawing D3065 rev.b  
B113036

21	D3065-7P		3/28/2014	40.00	\$7.00	\$280.00
			Yes	Each		
			3/28/2014			

Manufacture as per drawing D3065 rev.b  
B111400

Line Total: \$420.00

22	D3537-1P	Wearpad	3/28/2014	40.00	\$4.30	\$172.00
			Yes	Each		
			3/28/2014			

Manufacture as per drawing D3537 rev.c  
B113358

D3537-1P

Manufacture as per drawing D3537 rev.c  
B113229

22	D3537-1P		3/28/2014	40.00	\$4.30	\$172.00
			Yes	Each		
			3/28/2014			

22	D3537-1P		3/28/2014	40.00	\$4.30	\$172.00
			Yes	Each		
			3/28/2014			

22	D3537-1P		3/28/2014	40.00	\$4.30	\$172.00
			Yes	Each		
			3/28/2014			

22	D3537-1P		3/28/2014	40.00	\$4.30	\$172.00
			Yes	Each		
			3/28/2014			

22	D3537-1P		3/28/2014	40.00	\$4.30	\$172.00
			Yes	Each		
			3/28/2014			

**PO Instructions: PROCUREMENT QUALITY CLAUSES**

A005 RIGHT OF ENTRY

A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A042 DART NOTIFICATION BY SUPPLIER

Note:



55 Northfield Dr., E., Box 339  
Waterloo, On. N2K 3T6  
(519)570-6590  
F. (519)893-4252

## Certificate of Compliance

Sold To: DART Aerospace

Purchase Order Nu ID PO23011

Item	Quantity	Part Number	Revision	Description	Mtl. / Thk.	HT Number
18(4)	60	D3065-1	b	STEP SPACER	2024-T3 / 0.040"	663172A5
19(5)	100	D3065-3	b	STEP SPACER	2024-T3 / 0.040"	663172A5
21(7)	60	D3065-7	b	STEP SPACER	2024-T3 / 0.040"	663172A5
20(6)	110	D3065-5	b	STEP LEG	3052-H32 / 0.080"	3C5291
9(8)	20	D4093-1	d	BRACKET	6061-T6 / 0.750"	37797032
10(9)	10	D4093-3	d	BRACKET	6061-T6 / 0.750"	37797032
8(2)	20	D3319-1	c	WEARPLATE	CRS 18GA / 0.048	3683T3-51
7(1)	20	D3319-3	c	WEARPLATE	CRS 18GA / 0.048	3683T3-51
22(3)	120	D3537-1F	c	WEARPAD	304 SS / 0.063"	A1303988
11(10)	40	D3405-1F	b	GHW BRACKET	304 SS / 0.120"	350420

This is to certify that the whole of the supplies detailed hereon has been inspected, tested, packed, and unless otherwise stated, conform in all respects with the requirements of the contract or order.

Name: Derek Loebssack

Title: President

Sign:

Dated:

07-14-04

DAS

27

89

14/11/07

# THYSSENKRUPP MATERIALS NA

J.M. WOODTURNING LTD

ALUMINUM PLATE 6061-T651  
750" THICK X 48.5000" X 96.5000"  
PART NO.

PO/Ref FRED

We certify that this is a true copy of the report  
furnished by the producer of the metal, or data  
resulting from tests made in approved labs.

## Certificate of Mill Test Results

BL PEC-851084-001

19Nov13  
Pg 1/1

### TEST CERTIFICATE

Certificate No : 1209162662



Hulamin Limited Reg. No. 194002844/03 VAT Reg. No. 41061498U  
HEAD OFFICE: Moesstrasse 83, Pfaffenhausen 3201, P.O. Box 74, Pfaffenhausen 3200, South Africa  
Telephone: +27 31 3556911 Telefax: +27 31 354 6135

BUYER:	Hulamin Lot No:	Product :
TA CHEN INTERNATIONAL, INC 5955 ODISPO AVE LONG BEACH CA 90803	H.012523 17/09/032C8	PLATE HEAT TREATED & FINISHED, 6061-T651 0.75" X 48.5" X 96.5"
	P/Lot No :	Dimensions :
	21161413 RE00558	0.75" X 48.5" X 96.5"
	Cast Order No :	Alloy - Temper :
	N03100-S	6061 - T651
	HULAMIN Order No: 1817422	Certificate No :
	Item Part:	1209162662
		Cast Ref/Part No:
		Combined P/Lot No: R-21845

Order No: 1P1671

#### MECHANICAL TEST RESULTS

Lot No.	Cast No.	Metalld	Alloy	Spec No	Mechanical Properties							
					Yield Strength (Ksi)	UTS (Ksi)	Elongation A50 (%)	Endng (%)	TestDate	Gauge Length (inches)	Bend Test	Actual Gauge (inches)
Spec				Min Max	38.1	42.0	9					0.78 0.781
17/09/032C8	VAST	37797032	6061	1 2	41.6 41.6	46.7 46.7	15 15		07/09/12 07/09/12	2 2		0.765 0.765

#### CHEMICAL COMPOSITION

Cast No.	Alloy	Si(%)	Fe(%)	Cu(%)	Mn(%)	Mg(%)	Cr(%)	Zn(%)	Ti(%)	Each(%)	Total(%)	Al(%)
Min		0.40	0.8	0.15	0.10	0.8	0.04					
Max		0.60	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.15	0.720

CONFORMS TO: ASME SB-209 ASTM B800-10 A653-02/2011 A653-00A-200/10, DD.1927

For purposes of determining conformance with these specifications, an observed value or a calculated value shall be rounded "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding method of ASTM Practice E29, for Using Significant Digits in Test Data to Determine Conformance with Specifications.

WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF THE ORDER CONTRACT. THE INSPECTION RESULTS INDICATED IN THE CHEMICAL COMPOSITION HAVE BEEN OBTAINED FROM CAST ANALYSIS.

D. A. Fletcher (HEAD OF CHEMICAL TESTING)

Ver 1.0.1

V. Maritz (HEAD OF PHYSICAL TESTING)

MILL TEST REPORT TA CHEN INTERNATIONAL, INC.  
Customer: CECOPCO PO#SPEC-255613 SOL#PR6420  
Item: 750488660617651 Sunkit:PPW671 Head#:37797032

This MTR contains 1 page (Page# 1)  
MTR#:HLCIR181764\_PFW



## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Kaiser Aluminum  
Trentwood Works  
Spokane, WA 99215-5108  
(800) 367-2586

CUSTOMER PO NUMBER:		WORK PACKAGE:	CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:		
5400197766-20			ALFLR01581		HT Flat Sheet		
KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:	ALLOY:	CLAD:	TEMPER:		
1160889	2	11/14/2013	2024	BARE	T3		
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:	GAUGE:	WIDTH:	LENGTH:		
3293 LB	117 PCS EST.	2044959	0.0400 IN	48.000 IN	144.000 IN		
SHIP TO:		SOLD TO:					
COPPER & BRASS SALES 404 CENTURA COURT SPARTANBURG, SC 29303 US		COPPER & BRASS SALES ATTN: ACCOUNTS PAYABLE P.O. Box 5116 SOUTHFIELD, MI 48086 US					

MHU 1730227: LOT 663172A5: 117 pieces

### Certified Specifications

AMS 4037/RevP AMS-QQ-A-250/4/RevA ASTM B 209/Rev10 CMMR 019/RevD CMMR 025/RevU

Test Code: 1504

### Test Results:

LOT: 663172A5 CAST: 641 DROP: 27 INGOT: 3

Melted in USA  
(ASTM E8/B557)  
(EN 2002-1)

Tensile: Temper	Dir/#Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
T3	LT / 02 (Min:Max)	68.1 : 68.2	46.0 : 46.1	17.1 : 17.8
		(470 : 470)	(317 : 318)	

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.23	4.7	0.57	1.3	0.01	0.16	0.02	0.01	0.00	TOT 0.03

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
2024	MIN 0.00	0.00	3.8	0.30	1.2	0.00	0.00	0.00	0.00	0.00	MAX 0.05
	MAX 0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	0.05	TOT 0.15

Aluminum Remainder

Plant Serial: 4315340

Kaiser Order Number: 1160889

Line Item: 2

Page 1 of 2

From: ThyssenKrupp Materials NA

Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673

CstAr

CstOr 256039

Wgt.: 55.296 LB

Date 02/20/2014



## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Kaiser Aluminum  
Trentwood Works  
Spokane, WA 99215-5108  
(800) 367-2586

### CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser) hereby certifies that metal shipped under this order was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.223 for domestic content. This material has been inspected, tested and found in conformance with the requirements of the applicable specifications as indicated herein. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. All metal which is solution heat treated complies with AMS 2772. Any warranty is limited to that shown on Kaiser's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of Kaiser Aluminum Fabricated Products, LLC laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law. ISO-9001:2000 certified.

JAMES HEMENWAY, LABORATORIES SUPERVISOR

Plant Serial: 4315340

Kaiser Order Number: 1160889

Line Item: 2

Page 2 of 2

From: ThyssenKrupp Materials NA

Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673

CstAr

CstOr 256039

Wgt.: 55.296 LB

Date 02/20/2014

FORM: 1006

WORKORDER:

2402984673

# COPPER AND BRASS SALES

MATERIAL TYPE

ALUMINIUM ALLOYS

PRODUCT DESIGNATION

2014 2024 2224 2324 7050 7075 7150 7175 7475 ALUMEC 89 ALUMEC 99 QC-7

## "WARNING"

SMALL CHIPS, FINE TURNINGS AND DUST MAY IGNITE READILY. EXPLOSION POTENTIAL MAY BE PRESENT WHEN DUST OR FINES ARE DISPERSED IN THE AIR; FINE, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH CERTAIN METAL OXIDES; OR, CHIPS, FINES, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH WATER OR MOISTURE. KEEP AWAY FROM IGNITION SOURCE. USE EXPLOSION-PROOF VENTILATION. KEEP MATERIAL DRY.

THIS PRODUCT CONTAINS BERYLLIUM AND COPPER. INHALING BERYLLIUM DUST OR FUMES MAY CAUSE CHRONIC BERYLLIUM DISEASE (CBD), A SERIOUS CHRONIC LUNG DISEASE IN SOME INDIVIDUALS. BERYLLIUM IS A CANCER HAZARD; OVER TIME CBD AND CANCER CAN BE FATAL. TARGET ORGAN IS PRIMARILY THE LUNG. INHALING LARGE AMOUNTS OF COPPER, MAGNESIUM OXIDE, MANGANESE OXIDE, AND ZINC OXIDE FUMES OR DUST MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS. CHRONIC OVEREXPOSURE TO COPPER MAY CAUSE THICKENING OF THE SKIN; AND SKIN, TEETH, AND HAIR DISCOLORATION. CHRONIC OVEREXPOSURE TO MANGANESE DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE, SCARRING OF THE LUNGS AND REPRODUCTIVE HARM IN MALES. TARGET ORGAN IS PRIMARILY THE LUNG, BUT REPEATED HIGH EXPOSURE CAN ALSO AFFECT THE LIVER. CHRONIC OVEREXPOSURE TO IRON OXIDE DUST/FUME MAY CAUSE LUNG SIDEROSIS. CHRONIC OVEREXPOSURE TO SILICON DUST CAN CAUSE CHRONIC BRONCHITIS. OVEREXPOSURE TO AMORPHOUS SILICA CAN CAUSE DRYING OF THE MUCOUS MEMBRANES OF THE EYES, NOSE, AND THROAT.

THIS PRODUCT ALSO CONTAINS NICKEL AND CHROMIUM COMPOUNDS. INHALATION OF NICKEL DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT AND CAUSE NASAL AND/OR LUNG CANCER. NICKEL HAS BEEN IDENTIFIED AS A POTENTIAL HUMAN CARCINOGEN. EXPOSURE TO CHROMIUM DUST OR FUMES MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE UNDER HIGH TEMPERATURES. HEXAVALENT CHROMIUM MAY BE PRODUCED, IF IN THE INSOLUBLE FORM, IT IS A CONFIRMED HUMAN CARCINOGEN. (CALIFORNIA PROPOSITION 65).

IF COATED WITH OIL, MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT. WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE ALUMINIUM/ALUMINIUM ALLOYS MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

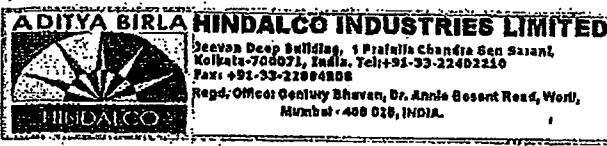
\* If processing or recycling produces particulate, use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding, grinding, abrasive sawing, sanding and polishing. Any activity which abrades the surface of this material can generate airborne particulate. Use appropriate NIOSH approved respiratory protection (P95; P100 for lead with, quantitative fit testing required) if exposures exceed the permissible limits.

\* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.

\* Aluminum, in solid form and as contained in finished products presents no special health risk.

\* Sold for manufacturing purposes only. This product can be recycled; contact your sales representative.

For additional information, call or write to Copper and Brass Sales, 22355 West Eleven Mile Road, Southfield, MI 48033, telephone 248-233-5600, or visit our web site @ [www.copperandbrass.com](http://www.copperandbrass.com).



Devaran Deep Building, 1 Prafulla Chandra Sen Sarani,  
Kolkata-700071, India. Tel:+91-33-22462210  
Fax: +91-33-22894288

Head Office: Century Bhawan, Dr. Anna Salai Road, Worli,  
Mumbai - 400 028, INDIA.

Page 1 of 2

Date: 20-SEP-13

NAME OF THE PARTY	RYERSON CANADA INC., 161 THE WEST MALL, TORONTO, ONTARIO M5C 1V6, CANADA.
PRODUCT	ALUMINUM SHEET.
QTY (MT)	20.923
LC/NO. & DATE	64687167 Dt. 20.08.2013
INVOICE NO	HOB/R/2014/72

**COPY**

THE TEST RESULTS OF THE SAMPLES DRAWN AND TESTED IN OUR LABORATORY ARE AS FOLLOWS :

**QUALITY CERTIFICATE**

SL NO.	Package No.	Alloy Temp	Net Wt (MT)	Size (cm)	Cast No.	Cast No./Sheet No.
1	717380184	AA5052, H32	1.487	3048 x 1219 x 2.29	H13HASH0805002	717380184
2	2D0192B0184	AA5052, H32	1.506	3048 x 1219 x 2.54	H13HASH0819010	2D0192B0184
3	3CS3084	AA5052, H32	1.487	2439 x 1219 x 2.03	H13HASH0805017	3CS3084
4	2D0192B0185	AA5052, H32	1.503	3048 x 1219 x 2.54	H13HASH0819010	2D0192B0185
5	3CS3087	AA5052, H32	1.487	2439 x 1219 x 2.03	H13HASH0805017	3CS3087
6	717380185	AA5052, H32	1.511	3048 x 1219 x 2.29	H13HASH0805002	717380185
7	717290384	AA5052, H32	1.488	3048 x 1219 x 2.29	H13HASH0805001	717290384
8	717290382	AA5052, H32	1.485	3048 x 1219 x 2.29	H13HASH0805001	717290382
9	2D0193A0182	AA5052, H32	1.47	3048 x 1219 x 2.54	H13HASH0819011	2D0193A0182
10	717380182	AA5052, H32	1.487	3048 x 1219 x 2.29	H13HASH0805002	717380182

**CHEMICAL COMPOSITION (%)**

Cast No.	Si	P	N	Mg	Ca	Zn	Cr	Al	Fe	Sn	Bi	Others	Rem. Alum.
1	.011	.214	.006	.345	.001	0	0	.008	0	0	0	0	97.171
2	.113	.085	.041	.413	.01	0	0	.02	0	0	0	0	96.887
3	.02	.143	.137	.26	.009	0	0	.012	0	0	0	0	96.397
4	.123	.285	.041	.433	.01	0	0	.02	0	0	0	0	95.887
5	.02	.143	.137	.26	.009	0	0	.012	0	0	0	0	96.397
6	.091	.216	.068	.345	.001	0	0	.008	0	0	0	0	97.123
7	.105	.262	.003	.538	.001	0	0	.005	0	0	0	0	96.873
8	.105	.262	.002	.528	.001	0	0	.005	0	0	0	0	96.873
9	2D0193A0182	.124	.263	.054	.2367	.016	0	0	.02	0	0	0	96.88
10	.091	.216	.036	.345	.001	0	0	.008	0	0	0	0	97.123

**MECHANICAL PROPERTIES**

**OTHER TESTS**

Cast No.	UTS (kg/mm <sup>2</sup> )	TD (kg/mm <sup>2</sup> )	% Elongation	Hard Test
1	24.5	0	11.2	O T Satisfactory
2	23.2	0	10.6	O T Satisfactory
3	22.9	0	9.5	O T Satisfactory
4	23.2	0	10.6	O T Satisfactory
5	22.9	0	9.5	O T Satisfactory
6	24.5	0	11.2	O T Satisfactory
7	23.4	0	10.6	O T Satisfactory
8	23.4	0	10.4	O T Satisfactory
9	22.6	0	11.8	O T Satisfactory
10	24.5	0	11.2	O T Satisfactory

Remarks:- (1) RYERSON PO NO.738570 (2) ISSUED BY THE MANUFACTURER.

FOR ADITYA BIRLA HINDALCO INDUSTRIES LIMITED  
AUTHORIZED SIGNATORY

2/2

**ADITYA BIRLA HINDALCO INDUSTRIES LIMITED**

Jeevan Deep Building, 1 Prafulla Chandra Seth Baranji,  
Kolkata-700021, India. Tel:+91-33-22402210  
Fax: +91-33-22884898  
Regd. Office: Century Bhawan, Dr. Annie Besant Road, Worli,  
Mumbai-400 028, INDIA.

Page 2 of 2

Date: 20-SEP-13

NAME OF THE PARTY	RIVERTON CANADA INCO., 161 THE WEST MALL, TORONTO, ONTARIO M5C4V8, CANADA.
PRODUCT	ALUMINUM SHEET.
QTY (MT)	20.923
L/C NO. & DATE	64687167 DL: 20.08.2013
INVOICE NO	HBR/R/2014/22

**COPY****QUALITY CERTIFICATE**

ISOMO	Package No.	Alloy Tempar	Net Wt (kg)	Size (cm)	Coil Nos.	Cast No./Reel No.
11	3C53086	AA5052, H32	1.486	2438 x 1219 x 2.03	H13HASH0805017	3C53086
12	3C52981	AA5052, H32	1.517	2438 x 1219 x 2.03	H13HASH0905018	3C52981
13	2D0192B0182	AA5052, H32	1.502	3048 x 1524 x 2.54	H13HASH0819010	2D0192B0182
14	2D0193A0185	AA5052, H32	1.505	3048 x 1524 x 2.54	H13HASH0819011	2D0193A0185
Total-			20.923			

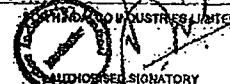
**CHEMICAL COMPOSITION (%)**

Cast No.	Si	Ti	Mn	Vg	Cr	Ni	Co	P	S	Cr	Mo	Yb	Eu	Bi	Others	Rem. Alum.
11 3C53086	.12	.18	.137	2.6	.003	0	0	.013	0	.0	0	0	0	0	0	86.193
12 3C52981	.12	.49	.137	2.6	.003	0	0	.013	0	.0	0	0	0	0	0	86.397
13 2D0192B0182	.123	.285	.041	2.612	.01	0	0	.02	0	.0	0	.005	0	0	0	86.887
14 2D0193A0185	.124	.301	.056	2.367	.015	0	0	.02	0	.0	0	.016	0	0	A1	86.88

**MECHANICAL PROPERTIES****OTHER TESTS**

Cast No.	UTS(kg/mm <sup>2</sup> )	YS (kg/mm <sup>2</sup> )	% Elongation	Read Test		
11 3C53086	22.9	0	9.5	O T Satisfactory		
12 3C52981	22.4	0	10	O T Satisfactory		
13 2D0192B0182	23.2	0	10.6	O T Satisfactory		
14 2D0193A0185	22.6	0	11.8	O T Satisfactory		

Remarks:- (1) RIVERTON PO NO.736670 (2) ISSUED BY THE MANUFACTURER.





ESSAR STEEL ALGOMA INC., 105 West Street, Sault Ste. Marie, Ontario, Canada P6A 7B4

SO No./Item & Date.: 8017177 000020 2014/01/09	Shipment No. & Date.: 1000083594 2014/01/10	TC No., Date & Time : ESA-128192 2014/01/12 - 08:41:14
Sold to Customer Name and Address : RYERSON INC FINANCIAL DRIVE 7525 BRAMPTON, Ontario, Canada L6Y 5P4	Ship to Customer Name and Address: RYERSON INC FINANCIAL DRIVE 7525 BRAMPTON, Ontario, Canada L6Y 5P4	Customer PO NO./Item: 744335 / 2 BOL NO.: 1000083594 Cust. Part No.: 7804-2405 Carrier : NATIONAL TRANSPORTATION - 1158A

Customer Specification : CR STEEL SHEET Carbon CQ / CS ASTM A1008 CS TY B (2012) Mark Number 7804-2405 Batch Annealed Top Semi Critical Surface Improved Shape Pickled Light Oiled Light Matte Finish Edge Sealant Required Std Thickness Tol

Supplementary Instructions : Test Cert 1:905-792-1617	Cust Use : AUTO IMPROVED SHAPE & SURF
Insp TIR : Chemical Analysis	
ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES. THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705)945-4095 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.	
MEETS EN 10204 3.1 ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT <a href="http://WWW.ESSARSTEELALGOMA.COM">WWW.ESSARSTEELALGOMA.COM</a>	
ALL HEATS FULLY KILLED. HEATS INDICATED WITH (*) FINE GRAINED. HEATS INDICATED WITH (-) MADE IN CANADA WITH DOMESTIC AND NORTH AMERICAN MATERIALS.	

Dimensions (T x W x L)	Batch No.	Heat No.-MS	Quantity	Pcs											
0.0440 " x 48.000 "	SAM9918B	3683T3-51	21,740 LB	1											
CHEMICAL PROPERTIES															
Heat No. (wt%)	C	Mn	P	S	Si	Cr	Ni	Cu	Mo	Al	Nb	V	B	Ti	N
3683T3*	0.04	0.26	0.003	0.007	0.020	0.01	0.01	0.01	0.00	0.035	0.000	0.000	0.0000	0.001	0.0033

K. UGHADPAGA

MANAGER METALLURGICAL SERVICES

\*\*WARNING\*\* THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

# THYSSENKRUPP MATERIALS NA

PO/Ref

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

## Certificate of Mill Test Results

BLPEC-000000-000

Pg 1/1

Signed by:

Attn: RICK

PART NO.

NO. 8465 P. 2

### 产品质量证明书 MATERIAL TEST CERTIFICATE

无锡宝昌金属制品有限公司

Wuxi Baucheng Metal Products Co.,Ltd

PAGE 2 OF 2

单号码: EX130930105  
Order No.  
货方: GLOBAL STAINLESS STEEL INC.  
Order  
用厂家: GLOBAL STAINLESS STEEL INC.  
ONSIGNEE

品名: STAINLESS STEEL SHEETS,  
Commodity SLIT EDGE

标准: ASTM A240/A240M  
Specification:

牌号: 304  
Type  
表面加工: 2B  
Invoice No.  
发行日期: 2013-10-26  
Date

料号 No.	货物编号 Product No.	产品尺寸 Product Size			数量 Number	重量 Weight Kg	拉伸试验 Tensile Test			表面硬度 HRB	炉批号 HEAT NO.	化学成分 Chemical Composition (%)										
		厚度 MM	宽度 MM	长度 MM			屈服强度 0.2% YS N/mm <sup>2</sup>	抗拉强度 TS N/mm <sup>2</sup>	延伸率 EL %			C Si Mn P S Ni Cr N										
12	13102612	0.6096	1219.2	2438.4	118	1612	250	690	57	83	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400			
13	13102613	0.6096	1219.2	2438.4	118	1616	250	690	57	83	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400			
14	13102614	0.7620	1219.2	2438.4	88	1644	271	665	58	89.5	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400			
15	13102615	0.7620	1219.2	2438.4	87	1626	271	665	58	89.5	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400			
16	13102616	1.2192	1219.2	2438.4	54	1494	267	695	55	87	A1303987	0.0400	0.530	1.1000	0.0330	0.0010	8.0200	18.160	0.0400			
17	13102617	1.2192	1219.2	2438.4	50	1378	267	695	55	87	A1303987	0.0400	0.530	1.1000	0.0330	0.0010	8.0200	18.160	0.0400			
18	13102618	1.2192	1219.2	3048	42	1460	267	695	55	87	A1303987	0.0400	0.530	1.1000	0.0330	0.0010	8.0200	18.160	0.0400			
19	13102619	1.2192	1219.2	3048	45	1574	267	695	55	87	A1303988	0.0400	0.430	1.1300	0.0350	0.0010	8.0300	18.230	0.0300			
20	13102620	1.5240	1219.2	2438.4	43	1485	271	680	52	87	A1303988	0.0400	0.430	1.1300	0.0350	0.0010	8.0300	18.230	0.0300			
21	13102621	1.5240	1219.2	2438.4	43	1487	271	680	52	87	A1303988	0.0400	0.430	1.1300	0.0350	0.0010	8.0300	18.230	0.0300			
22	13102622	1.9050	1219.2	2438.4	40	1725	268	650	55	84	A1304006	0.0300	0.440	1.1500	0.0380	0.0010	8.1000	18.250	0.0400			
23	13102623	1.9050	1219.2	2438.4	41	1735	268	650	55	84	A1304006	0.0300	0.440	1.1500	0.0380	0.0010	8.1000	18.250	0.0400			
24	13102624	3.0480	1219.2	3048	17	1482	280	675	54	84	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400			
25	13102625	3.0480	1219.2	3048	19	1656	280	675	54	84	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400			

备注 (Remarks):

1. 尺寸和表面: 合格  
Size and Surface: Guaranteed

兹证明所列产品均符合订单和标准的制造要求

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN  
HAS BEEN MADE IN ACCORDANCE WITH THE ORDER AND  
SPECIFICATION

\*此报告仅可完全复制  
\*The report can only be copied completely

技术本部  
TECHNICAL DEPT.

无锡宝昌金属制品有限公司  
WUXI BAUCHENG METAL PRODUCTS CO., LTD.

## THYSSENKRUPP MATERIALS NA

PO/Ref

## Certificate of Mill Test Results

BL PEC-000000-000

Pg 1/1

PART NO.

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by: \_\_\_\_\_  
Ann: RICK  
*1846*

Manufacturer / Fabricator / Importer:		Type of document / Type de document / Art der Dokumentation:		Document number / Numéro de document / Dokument-Nr.:	
 <b>ThyssenKrupp Stainless USA</b>		<b>INSPECTION CERTIFICATE</b> <b>CERTIFICADO DE INSPECCION</b> <b>ABNAMRO KRUPP STAINLESS</b> <b>according to / de acuerdo con / nach</b> <b>EN 10204-3.1</b>		0000032224 / Page / Page / Seite: 1 / 1	
<b>1 ThyssenKrupp Drive, P.O. Box 13000, Cleveland, OH 44113-1300</b> <b>CLIENT METALS SALES LIMITED, MISSISSAUGA, ONTARIO, CANADA</b> <b>999 DERRY ROAD EAST SUITE 305</b> <b>MISSISSAUGA, ON L5T 2J6</b> <b>CANADA</b>		<b>Customer / Client / Konsument:</b> <b>CLIENT METALS SALES LIMITED, MISSISSAUGA, ONTARIO, CANADA</b> <b>999 DERRY ROAD EAST SUITE 305</b> <b>MISSISSAUGA, ON L5T 2J6</b> <b>CANADA</b>		<b>Customer's telephone no. / N° de teléfono del cliente / Konsumenten-Telefon-Nr.:</b> <b>(905) 627-7789 / 921</b> <b>Delivery address / Dirección de entrega / Lieferanschrift:</b> <b>8622 BLOOR / 810</b> <b>Product / Producto / Produkt:</b> <b>STAINLESS STEEL</b>	
<b>Type of delivery / Condition damage / Estado de entrega:</b> <b>ASTM A240/A240M, ASME SA-210 SA210 Part A Ed 2010</b> <b>ASTM A240/A240M, ASME SA-210 SA210 Part A Ed 2010</b>		<b>Steel grade and quality / Acero / Qualitätsart und Güteklasse:</b> <b>TYPE 304/304</b>			
<b>Customer's required test / Pruebas requeridas / Prüfungswünsche:</b> <b>Thickness - 100% / Espesor - 100% / Dicke - 100%</b>		<b>Product characteristics / Características del producto / Produktmerkmale:</b> <b>Width of sheet/tube - Width / Ancho / Breite / Breite des Blattes/Pipe - Length / Largo / Länge</b>		<b>Specifying procedure / Procedimiento de especificación / Prüfverfahren:</b> <b>AOD</b>	
<b>Thickness / Espesor / Dicke:</b> <b>6056915</b> <b>60561812</b>		<b>Actual width / Ancho real / Breite tatsächl. / Breite des Blattes/Pipe - Length / Largo / Länge</b> <b>3.05 mm ± 1.218.20 mm x 2,458.40 mm</b> <b>0.1200 inch ± 48.0000 inch x 95.0000 inch</b>		<b>Specifying procedure / Procedimiento de especificación / Prüfverfahren:</b> <b>ASME</b>	
<b>Weight per unit of measurement / Peso por unidad de medida / Gewicht pro Maßeinheit:</b> <b>6056915</b> <b>60561812</b>		<b>Net weight / Peso neto / Brutto-Gewicht:</b> <b>4,000 kg / 2,218.7 kg</b> <b>4,000 kg / 2,218.6 kg</b>		<b>Net weight / Peso neto / Brutto-Gewicht:</b> <b>550420</b> <b>550420</b>	
<b>Weight / Peso / Gewicht:</b> <b>54</b>		<b>Net weight / Peso neto / Brutto-Gewicht:</b> <b>5,775 kg / 4,034 kg</b>		<b>Weight / Peso / Gewicht:</b> <b>1000036330</b> <b>1000036332</b>	
<b>Chemical composition / Composición química / Zusammensetzung:</b> <b>% C % Si % Mn % P % S % Cr % Ni % Mo % W</b>					
<b>350420 / TA</b> <b>0.026</b> <b>0.30</b> <b>1.66</b> <b>0.022</b> <b>0.0018</b> <b>18.05</b> <b>6.02</b> <b>0.060</b>					
<b>Surface treatment / Tratamiento de superficie / Oberflächenbehandlung:</b> <b>Hot rolled / Recién laminado / Warmwalz</b>					
<b>Orientation of grain / Orientación de la grana / Orientierung der Körner:</b> <b>Transverse</b>					
<b>Strength in longitudinal direction / Resistencia en dirección longitudinal / Zugfestigkeit im Längsansatz:</b> <b>VSM, T2</b> <b>PSI / MPa</b> <b>1000036330</b> <b>45,000 / 302</b> <b>1000036332</b> <b>43,945 / 303</b>		<b>T2</b> <b>PSI / MPa</b> <b>52,111 / 542</b> <b>52,1</b>		<b>EL, A21</b> <b>%</b> <b>52.9</b> <b>52</b>	
<b>Strength in transverse direction / Resistencia en dirección transversal / Zugfestigkeit im Queransatz:</b> <b>HRB</b>					
<small>Test of Metal Properties required / Prueba de las propiedades del metal / Prüfung der Metallischen Eigenschaften:</small> <small>No valid reports</small> <small>No environmental additives of Mercury compounds were made or used</small> <small>Free of radioactive contamination</small> <small>EU RoHS Directive 2002/95/EC Compliant</small> <small>Country of Origin as per ISO 3606-1</small>					
<small>Offices of the producer / Oficinas del fabricante / Produktionsstätten:</small> <b>ThyssenKrupp Stainless USA, LLC</b> <b>An ISO 9001:2008 certified company</b> <small>Certified to quality standard ISO 9001:2008 / Certificado de acuerdo con la norma ISO 9001:2008 /</small> <small>For further information contact: Andrew Balogos, Phone: +1 311 620 3402</small> <small>General Sales / Ventas Generales / Name des Geschäftsführers:</small> <small>12/12/2012</small>					